

REMARKS

Claims 8, 10, 12-21 and 25-28 are pending in the application. Claims 8, 12-16, 18, 20, 21 and 25 were rejected. Claim 8 is herein amended.

Applicant's Response to Claim Rejections under 35 U.S.C. §102

Claims 8, 12, 13, and 25 are rejected under 35 U.S.C. §102(e) as being unpatentable over Kotanagi (U.S. Patent No. 6,560,167) (Kotanagi '167).

The Office Action argues that **Kotanagi '167** discloses a thermoelectric generator timepiece having a case back with a heat conducting part larger in size than the thermoelectric generator and a heat insulating part provided with a sloped face gently slanting towards the outer periphery of the heat insulating part.

In Figure 1, **Kotanagi '167** discloses a heat insulating part 103 wherein it contains a rounded edge.

Applicants amend claim 8 to recite "a sloped conical surface part" in order to provide greater clarity. **Kotanagi '167** does not disclose a heat insulating part provided with a sloped conical surface part, since it discloses a heat insulating part having a rounded edge. Support for this amendment is found in the specification at page 17, lines 24-26 and page 19, lines 10-18.

Applicants further submit that the shape of the heat insulating part is not a matter of design choice. *In re Dailey* stands for the proposition that absent persuasive evidence that the

particular configuration of the item is significant, modifications in shape are a matter of choice, and do not warrant patentability. Please see MPEP §2144.04.

As to the significance of the shape of the heat insulating part, the importance of the structure is that the conduction of the heat of the arm through the heat insulating part can be effectively inhibited by the structure recited.

One of the reasons for this is that the structure of the heat insulating part 72 provided with a sloped conical surface part makes it such that the arm does not contact the heat insulating part itself. That is, by providing the sloped conical surface part, a clearance exists between the arm and the heat insulating part, so that the heat insulating part is not heated directly. Therefore, unnecessary heat is not conducted through the heat insulating part. This feature is described at page 19, lines 10-18 of the specification. On the other hand, in the structure of **Kotanagi '167**, the arm is allowed to contact a considerable part of the heat insulating part 103, and thus the thermal insulation efficiency is reduced.

Another reason that the heat insulating part 72 is provided with a sloped conical part is to obtain a large distance between the arm contacting the heat conducting part 71 and the metal case 10, therefore enhancing the thermal insulation efficiency. This is described at page 5, lines 12-21 and page 20, line 1 to page 22, line 7 of the specification. That is, the structure of claim 8 can enable a large distance between the part contacting the arm and the case, compared to the thickness of the heat insulating part. Therefore, excellent thermal insulation efficiency can be

obtained. On the other hand, in the structure of **Kotanagi '167**, the case is disposed close to the heat insulating part 103 contacting the arm, so that the thermal insulation efficiency is reduced.

For the reasons stated above, the structure of claim 8 is not a matter of design choice but a significant feature for enhancing the characteristic of the thermoelectric power generating timepiece.

With respect to claim 12, the Office Action argues that **Kotanagi '167** discloses an upper protection sheet/heat radiating plate 111 and a lower protection sheet /heat absorbing plate 104 that are in contact with the movement and case back, respectively. Claim 12 recites:

a thermoelectric element for serving as a power supply source of the movement, housed in a gap between the movement and said case back through the intermediary of an upper protection sheet and a lower protection sheet, in contact with the movement, and case back, respectively, wherein a heat conduction sheet annular in shape, having an opening larger in size than the outside shape of said thermoelectric element, is disposed so as to be in contact with a face of the upper protection sheet, on the side in contact with the thermoelectric element, and so as to be sandwiched between the case and said case back.

Kotanagi '167 fails to disclose or suggest several of the recited features of claim 12. First, **Kotanagi '167** does not appear to disclose an upper protection sheet in contact with the movement. In Figure 1, the heat-radiating plate 111 is in contact with the heat conducting plate 112, not the movement 116. In Figures 11-14, the heat-radiating plate is unlabeled, but based on the disclosure, it is assumed to be included in thermoelectric power generation unit 120, 130, 140, 150, and 160. Presuming that the heat-radiating plate is the uppermost part of the thermoelectric power generation unit, it also is in contact with the heat conducting plate 112, not

the movement 116. In either case, neither the heat-radiating plate nor the heat-conducting plate which the heat-radiating plate is connected to is in contact with the movement 116, as recited by claim 12.

Kotanagi '167 also fails to disclose a heat conduction sheet disposed so as to be in contact with a face of the upper protection sheet *on the side in contact with the thermoelectric element*. The present application discloses such a configuration in Figures 13-18, which show the heat conduction sheet 51 attached on the same side of upper protection sheet 61 as the thermoelectric element 60. The heat conduction sheet 112 of **Kotanagi '167** is disposed on the side of the heat radiating plate 111 not in contact with the thermoelectric element 106. The heat conduction sheet 112 of **Kotanagi '167** is therefore in contact with the wrong side of the heat radiating plate. For at least these reasons, Applicants submit that **Kotanagi '167** does not anticipate claim 12, and all claims dependent thereon. Favorable reconsideration is requested.

With regard to claims 13 and 25, Applicants respectfully submit that these claims are patentable to due their dependence on the independent claims discussed above. Favorable reconsideration is respectfully requested.

Applicants' Response to Claim Rejections under 35 U.S.C. §103

Claims 14-16, 18, 20 and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over **Kotanagi '167** in view of **Kotanagi et al. (U.S. Patent No. 6,359,841) (Kotanagi '841)**.

Amendment
Serial No. 10/030,166
Attorney Docket No. 020084

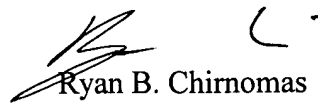
Claims 14-16, 18, 20, and 21 are all dependent, either directly or indirectly, on claim 12. **Kotanagi '841** also does not disclose an upper protection sheet in contact with the movement and a heat conduction sheet disposed so as to be in contact with a face of the upper protection sheet on the side in contact with the thermoelectric element. In other words, **Kotanagi '841** does not make up for the deficiencies of **Kotanagi '167** discussed above. For this reason, Applicants respectfully argue that prima facie obviousness has not been established. Favorable reconsideration is respectfully requested.

For at least the foregoing reasons, the claimed invention distinguishes over the cited art and defines patentable subject matter. Favorable reconsideration is earnestly solicited.

Should the Examiner deem that any further action by applicants would be desirable to place the application in condition for allowance, the Examiner is encouraged to telephone applicants' undersigned agent.

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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